

REMARKS

This Supplemental Response is being filed to replace the original Response to the Office Action of January 7, 2010, which was filed on April 6, 2010.

In the Office Action dated January 7, 2010, the Examiner rejected claims 16, 17, 20, 22, 23, 25-28 and 32 under 35 USC 103(a) as being unpatentable over Rotter et al (5351664) in view of Glueck [*sic* – Grüner] (DE19654365).

In this response, applicant has amended the claims to more clearly and distinctly define the claimed invention, and applicant submits that the references relied on by the Examiner do not render the claimed invention unpatentable.

The present invention as defined in independent claims 16, 32 and 33 is directed to an oil module for an internal combustion engine in which there are channels for oil flow and for water flow. The Examiner has asserted that Rotter discloses an oil module that “is provided with channels (41, 42) for guiding oil and water. . . .” Applicant submits that the Examiner is in error in that Rotter discloses only a single continuous feed channel 40 that includes a serpentine pathway 41 and a return passage 42, and that single channel is provided only for oil, not water. In fact, Rotter is quite clear that the oil module is “an air coolable body member” (col. 1 line 32) which “has externally extending fin members to permit the movement of cooling air thereover” (col. 1 lines 44-46). In fact, one of the objects of the invention is “a. providing an improved oil cooling device of the above kind which is air coolable.” (Col. 1 lines 1-2). Therefore, applicant respectfully submits that Rotter does not disclose an oil module that is provided with channels for guiding oil and water.

The independent claims specifically define that there is at least one channel for guiding oil and at least one channel for guiding water. Thus, since it is a specific object of the Rotter patent to provide an oil cooling device which is air coolable, Rotter specifically teaches away from modifying the structure disclosed in Rotter to incorporate a water channel. To modify the structure of Rotter in this manner would be to destroy one of the stated purposes of Rotter, that is, to provide an air coolable oil cooling device.

The independent claims further define an oil cooler base plate as part of the oil cooler interposed between the oil cooler and the carrier element (by occluding the oil cooler on the carrier side). This Supplemental Response amends each of the independent claims to clarify that the claimed base plate which occludes the oil cooler on the carrier side is not necessarily separate from the oil cooler, particularly when the oil cooler is assembled. That is, the base plate may be initially formed separately from the oil cooler (as evident from the drawings), yet attached to the oil cooler in a relatively permanent manner, such as by welding or other permanent attachment arrangements. The previous amendment to the independent claims might be narrowly construed to mean that such a relatively permanent attachment would not be permitted, and this was not the intent of that amendment. Nevertheless, and to avoid any confusion or misinterpretation of the claims, the present amendment to the claims does not require that the base plate be separate from the oil cooler, but only that it occlude the oil cooler on the carrier side, as stated in the original claims.

The Examiner has asserted that Rotter discloses a carrier element in FIG. 1 that can be attached to an engine block which is capable of carrying an oil filter and an oil cooler. Although the Examiner has not identified which structure in Rotter corresponds to the claimed carrier element, therefore hindering applicant's ability to address the Examiner's rejection with certainty, applicant submits that the connecting section 19 must be the portion that the Examiner is referring to since the connecting section 19 attaches to the engine block by means of the nipple 31, and the connecting section 19 has the oil cooler section 16 extending therefrom. Further, the oil filter 12 attaches to the connecting section 19 also via the nipple 31.

Rotter, however, does not disclose an oil cooler base plate which is interposed between the oil cooler and the carrier element. In fact, Rotter discloses that the oil cooling device 10 is integrally joined with the connecting section 19, and that both portions are formed as a single piece. Again, an object of the invention, as stated by Rotter is "b. providing an oil cooling device of the above kind which can be manufactured with a one piece housing." (Col. 2 lines 3-5). Further, Rotter states: "A distinct advantage of the oil cooling devices 10 and 10A are their simplicity and design having basically a cooling section 16 and a connecting section 19 which can all be molded from a single part." (Col. 3 lines 63-66). Therefore, to modify the structure disclosed by Rotter to provide a part interposed between the carrier element and the oil cooler is

directly taught against by Rotter. It would destroy the purpose and stated object of Rotter to make the structure into separate parts rather than as a single integral part.

The Examiner acknowledges that Rotter fails to disclose an oil cooler base plate. For this, the Examiner turns to the teachings of Grüner (erroneously identified as “Glueck” in the action). Grüner discloses an oil cooler that is comprised of a number of stacked plates 1 that overlap via their bent rims 2. Located within chambers 3 arranged between adjacent plates 1 are turbulence creating panels 4. The oil cooler of Grüner is provided with an oil inlet 11 and an oil outlet 11’ (hidden behind outlet 12’ in FIG. 1) as well as a cooling fluid inlet 12 and a cooling fluid outlet 12’. The inlets 11, 12 and outlets 11’, 12’ enter and exit through the same plate 1. At an opposite side of the stack of plates 1 from the inlets and outlets is a cover disk 15 that completes the oil cooler, and thus corresponds in some respects to the base plate of the present application. An intermediate plate 14 is positioned in the chamber 3 between the uppermost stacked plate 1 and the cover disk 15.

The oil flows into this cooler through the inlet 11 and upwards through each of the plates 1 and panels 4 via openings 8 in the plates and openings 6 in the panels. In the second panel 4, and every second panel thereafter, the oil is permitted to flow horizontally through the panel to an opposite side of the panels to join an oil flow leading to the oil outlet 11’ (see FIG. 6). In the alternating panels 4, sealing rings 7 prevent passage of the oil through those panels. Alternately, the cooling fluid flows in through an inlet 12 and upwards through each of the plates 1 and panels 4. In the first panel 4 and every second panel thereafter, the cooling fluid is permitted to flow horizontally through the panel to an opposite side of the panels to join a cooling fluid flow leading to the cooling fluid outlet 12’. When the oil and cooling fluid reach the uppermost panel 1, they flow into channels 17, 18 from an inlet side to an outlet side to complete the circuit. The channels 17, 18 have widths a, b which may be varied and varied relative to one another to change a ratio of the flow of oil to the flow of cooling fluid. This allows a single stack of plates 1 to be used for providing different cooling powers for the oil cooler, merely by changing the plate 14. The channel 17 for the oil may be large enough so that the oil flow rate through the channel 17 is greater than the sum of the flow rates of oil through all of the panels 4.

The Examiner identifies the intermediate plate 14 as corresponding to the claimed oil cooler base plate, and asserts that this plate 14 occludes the oil cooler on a “carrier side,” referencing FIG. 3. There is nothing in FIG. 3 that suggests that cover disk 15 is a carrier

element that can carry an oil filter. There does not appear to be any mention or showing of an oil filter in Grüner. Instead, it appears that cover disk 15 is the base plate of the oil cooler of Grüner and the plate 14 is an intermediate plate located within the oil cooler itself. Therefore, Grüner does not disclose a base plate as defined in the present claims.

Further, the plate 14 of Grüner cannot be added to the structure of Rotter in any meaningful way, especially given the express statements of Rotter. That is, there is no location for inserting the plate 14 of Grüner into the unitary integral structure of Rotter in order to provide a bypass of the oil relative to the oil cooler of Rotter. This is especially true if the location of the base plate (in accordance with the present claims) is to be between the oil cooler and the carrier element. Since Rotter specifically teaches to make the carrier element and the oil cooler an integral one piece unit, and this is a stated object of Rotter, there is no way to place the plate 14 of Grüner between the carrier element and the oil cooler in Rotter. To do so would require destroying the teachings of Rotter and breaking the oil cooler and the carrier element into separate structures. A person of ordinary skill in the art would not be led to do this since Rotter specifically teaches against doing this.

Rotter, in fact, teaches a different manner of bypassing the oil cooler, which is to provide a passage 34 from the oil inlet directly to the oil filter 12, thereby preventing the oil (under the right conditions) from even flowing into or through the oil cooler. This passage 34 is controlled by a valve 36 which operates dependent on the pressure of the oil at the oil inlet. The Examiner has not pointed to any teaching, suggestion or motivation that a person of ordinary skill in the art would have to remove the oil bypass arrangement already provided in Rotter, and to break the structure of Rotter into separate pieces (specifically taught away from by Rotter) in order to place the plate 14 disclosed in Grüner between the connecting section 19 and the cooling section 16 of Rotter. Without this teaching, suggestion or motivation, and in view of the fact that Rotter specifically teaches against undertaking such a modification of the Rotter structure, applicant submits that the modification of Rotter suggested by the Examiner is improper and does not lead to a conclusion of unpatentability of the present independent claims.

For each of these reasons, considered individually or in combination, applicant submits that each of the independent claims and their dependent claims are patentably distinguishable over the combination of Rotter and Grüner as suggested by the Examiner.

In addition, independent claim 33 defines the channels as extending through the carrier element for guiding oil and water in the oil module. It was noted above that Rotter does not disclose channels for guiding water, and in fact specifically teaches away from such a structure by making it an object of the invention of Rotter to have an air cooled oil cooler. The Examiner has apparently identified cover disk 15 in Grüner as corresponding to the claimed carrier element. Applicant points out above why this is incorrect, however, even if it were correct, there are no oil or water channels extending through cover disk 15 of Grüner as required by claim 33. Therefore, even a combination of the structure of Rotter with the arrangement of Grüner (which applicant submits is improper) would not result in the structure as defined in claim 33. For this additional reason, applicant submits that independent claim 33 is patentably distinguishable over the references relied on by the Examiner.

Also, with respect to claim 20, there is no teaching or suggestion in the references relied on by the Examiner of forming two shorter sections of the oil cooler bypass channel in the carrier element. The Examiner points to FIG. 5 of Grüner as showing shorter sections near 10 and 10' in FIG. 5. This figure shows a plan view of the plate 14 (which the Examiner has equated to the claimed base plate) and the oil channel 17 and coolant liquid channel 18 in that plate. The "shorter sections near 10 and 10'" are all formed in the plate 14 and not in a separate carrier element, which the Examiner identified as cover disk 15. There is no indication that any portion of a channel is formed in the cover disk 15 of Grüner. The areas marked by arrows 10 and 10' are passages that extend down into the oil cooler, which passages extend through plates 1 and panels 4 (see FIG. 3 and the view line V-V for FIG. 5 just above plate 14). Cover disk 15 is not even shown in FIG. 5.

For this additional reason, applicant submits that claim 20 is patentably distinguishable over the references relied on by the Examiner.

With regard to claim 25, the Examiner asserts that the claimed "cross-sectional narrowing is formed by at least one overlapping area between one end of the oil cooler bypass channel (14) and a channel area on the carrier element side (15)." Applicant submits that cover disk 15 is not disclosed to have any channel elements formed therein, and therefore there is no teaching in Grüner of a channel area on the carrier element side" as defined in claim 25.

For this additional reason, applicant submits that claim 25 is patentably distinguishable over the references relied on by the Examiner.

Applicant points out that each of the claims previously withdrawn due to a species election requirement depend directly or indirectly from independent claim 16. Since independent claim 16 is patentable, as discussed above, applicant submits that each of the withdrawn claims should be reintroduced into the application and indicated to be allowable with the claims currently under consideration.

In view of the above amendments and discussion, applicant submits that all of the claims of the application are patentably distinguishable over the references relied on by the Examiner and applicant requests the Examiner to indicate that all of the claims (including the withdrawn claims) are allowed, and to pass the application to issue.

The Commissioner is hereby authorized to charge any additional fees which may be required for this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 07-2069.

Respectfully submitted,

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